### (19) World Intellectual Property Organization

International Bureau





## (43) International Publication Date 24 March 2005 (24.03.2005)

#### **PCT**

# (10) International Publication Number WO 2005/025451 A2

(51) International Patent Classification<sup>7</sup>:

**A61F** 

(21) International Application Number:

PCT/US2004/030024

(22) International Filing Date:

13 September 2004 (13.09.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/502,003	11 September 2003 (11.09.2003)	US
60/571,305	14 May 2004 (14.05.2004)	US
60/579,695	15 June 2004 (15.06.2004)	US
60/584,963	2 July 2004 (02.07.2004)	US
60/588,075	15 July 2004 (15.07.2004)	US
60/588,878	16 July 2004 (16.07.2004)	US
60/592,158	29 July 2004 (29.07.2004)	US

(71) Applicant (for all designated States except US): AD-VANCED BIO SURFACES, INC. [US/US]; 5909 Baker Road, Suite 550, Minnetonka, MN 55345 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): FELT, Jeffrey, C. [US/US]; 4800 Lodge Lane, Greenwood, MN 55331 (US). ARSENYEV, Alexander [RU/US]; 1845 Turquoise Trail, Eagan, MN 55122 (US). BUSCEMI, Paul, J. [US/US]; 2310 Tamarack Drive, Long Lake, MN 55356 (US). DUCHON, Doug [US/US]; 9630 Foxford Road, Chanhassen, MN 55317 (US). GHAI, Suresh [US/US]; 16805 41st Avenue North, Plymouth, MN 55317 (US). GRIFFIN, David [US/US]; 979 37th Place, Vero Beach, FL 32960 (US). RYDELL, Mark, A. [US/US]; 516

Turnpid Road, Golden Valley, MN 55416 (US). SONG, Yong [US/US]; 8567 Cortland Road, Eden Prairie, MN 55344 (US). TAYLOR, Alan [US/US]; 6405 Kiry Oads Drive, Memphis, TN 38119 (US).

(74) Agents: GOLDMAN, Philip, M. et al.; Fredrikson & Byron, P.A., 200 South Sixth Street, Suite 4000, Minneapolis, MN 55402 (US).

- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### Published:

 without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD AND MATERIALS FOR INTERPOSITIONAL ARTHROPLASTY IMPLANT

(57) Abstract: A method and apparatus for the creating or modification of the wear surfaces of orthopedic joints are disclosed. An implant in accordance with an exemplary embodiment of the present invention provides one or more biomaterials defining a first major surface adapted to be positioned as an articulating surface against a medial condyle of a femur, and a second major surface adapted to mate with a tibial plateau of a tibia. The surfaces can provide the same or different physical-mechanical properties, as by the use of a composite of two or more biomaterials having the same or different properties. Implants in accordance with the present invention include hip implants. The biomaterial may be in particulate form for use as a bulking agent, and comprise one more drugs. The invention also includes methods of predicting wear.

